Fig.1

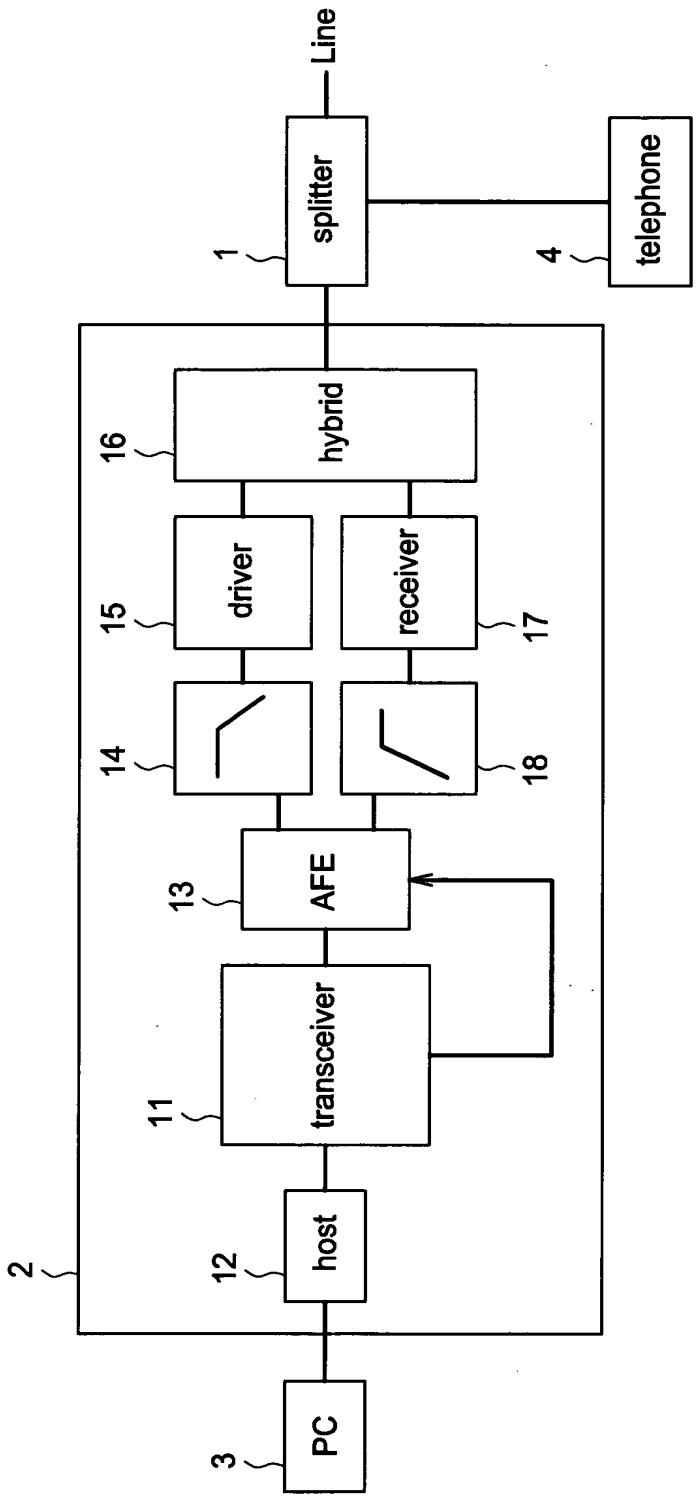

Line
splitter
telephone
1
4
hybrid
16
driver
15
receiver
17
14
18
AFE
13
transceiver
11
host
12
PC
3
2

Fig.2

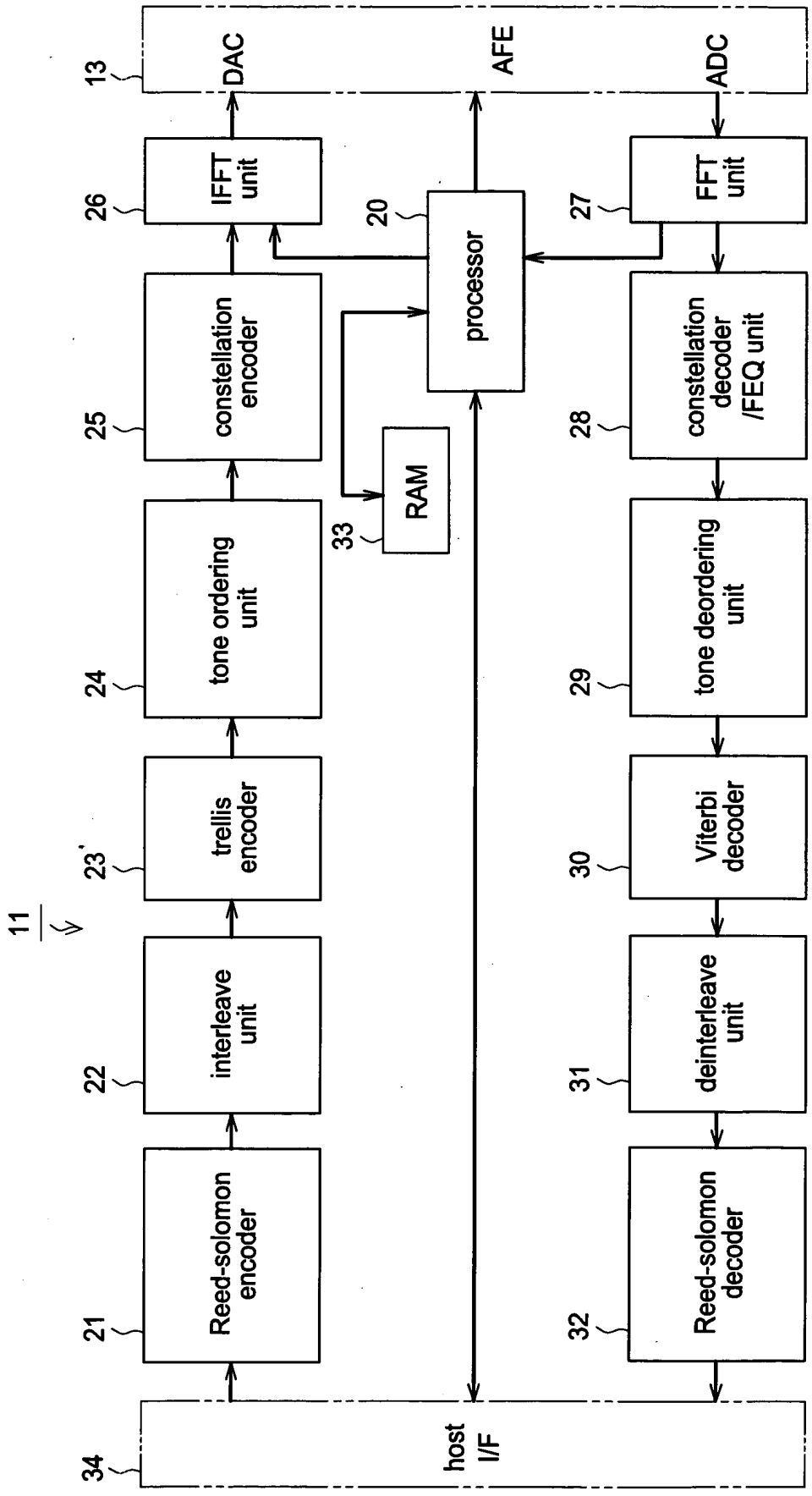

11
Reed-solomon encoder
21
interleave unit
22
trellis encoder
23'
tone ordering unit
24
constellation encoder
25
IFFT unit
26
DAC
13
AFE
processor
20
RAM
33
ADC
13
FFT unit
27
constellation decoder /FEQ unit
28
tone deordering unit
29
Viterbi decoder
30
deinterleave unit
31
Reed-solomon decoder
32
host I/F
34

Fig.3

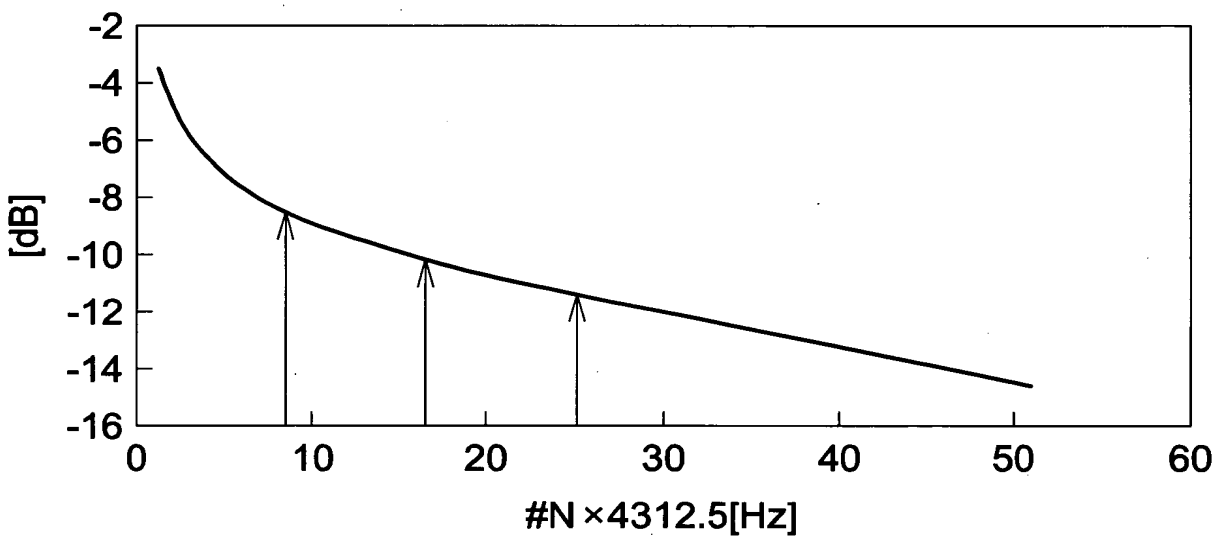


Fig.4

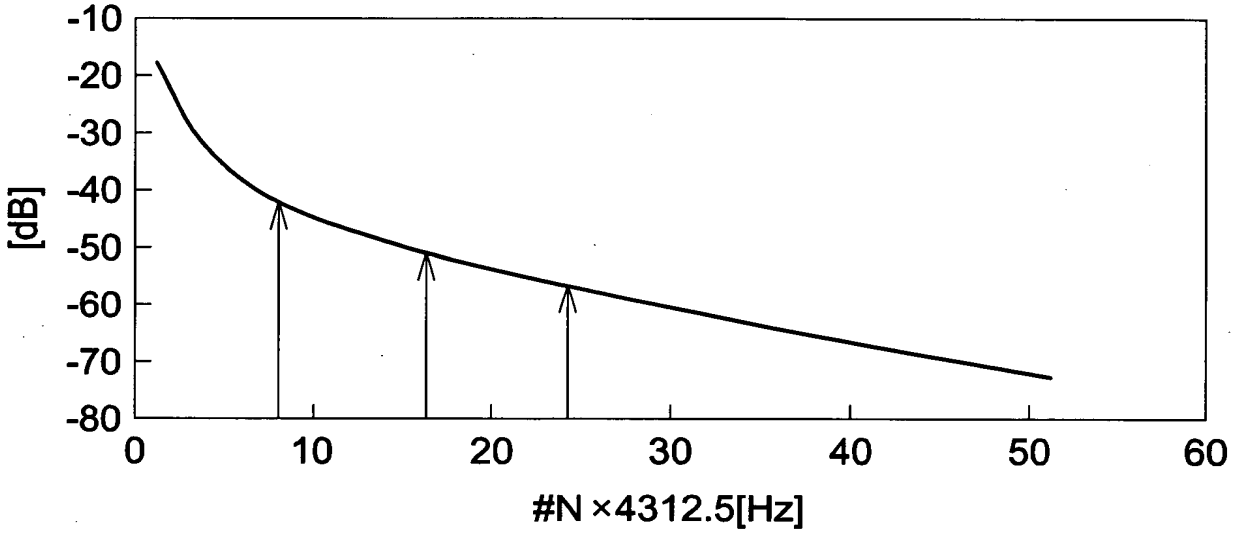


Fig.5

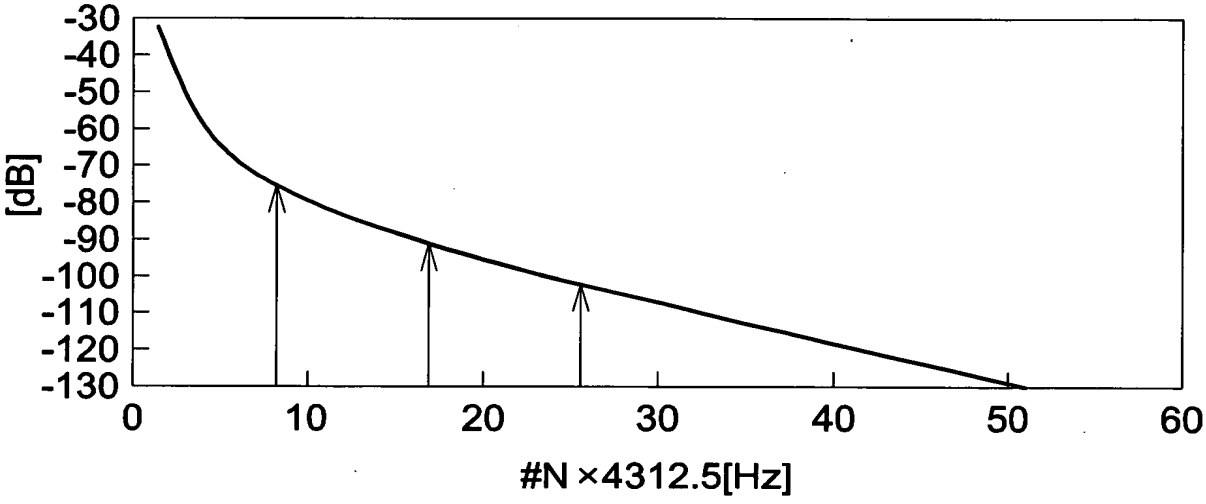


Fig.6

distance	Carrier index N (frequency=4.3125KHz x N)						
	9	17	25	40	64	128	255
1Km	-8.89dB	-10.3dB	-11.4dB	-13.2dB	-16.0dB	-22.9dB	-34.3dB
5Km	-44.5dB	-51.6dB	-56.8dB	-66.0dB	-80.2dB	-114.6dB	-171.4dB
9Km	-80.0dB	-92.9dB	-102.3dB	-118.0dB	-144.4dB	-206.3dB	-308.6dB

Fig.7

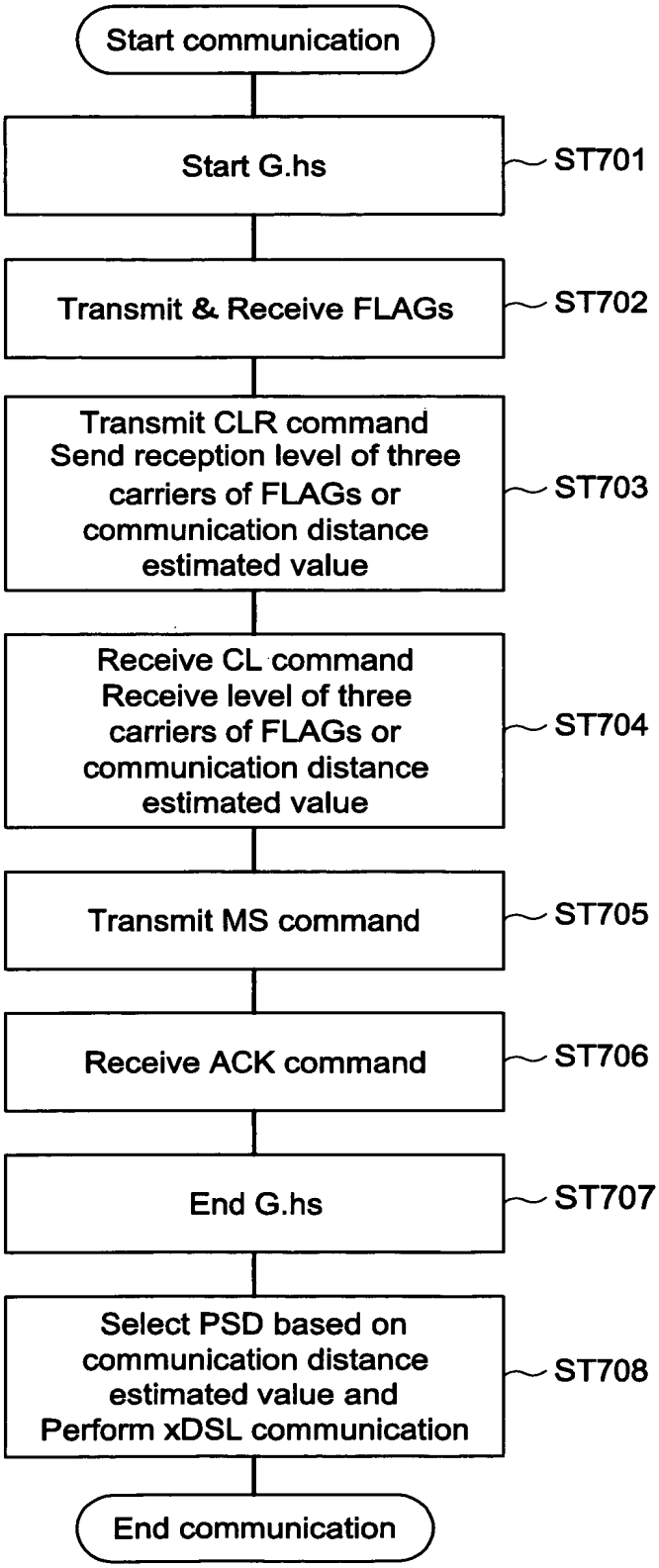

Start communication
Start G.hs
ST701
Transmit & Receive FLAGs
ST702
Transmit CLR command
Send reception level of three carriers of FLAGs or communication distance estimated value
ST703
Receive CL command
Receive level of three carriers of FLAGs or communication distance estimated value
ST704
Transmit MS command
ST705
Receive ACK command
ST706
End G.hs
ST707
Select PSD based on communication distance estimated value and Perform xDSL communication
ST708
End communication

Fig.8

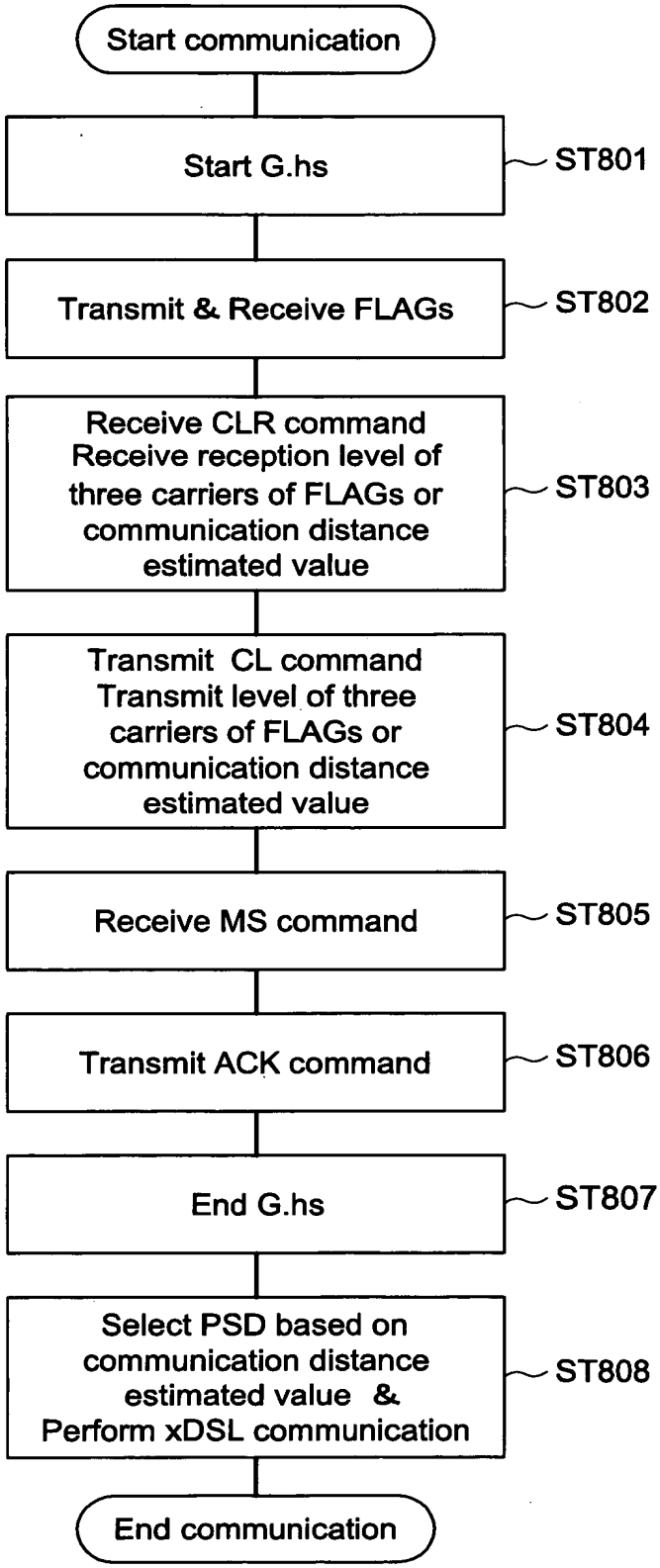

Start communication
Start G.hs
ST801
Transmit & Receive FLAGs
ST802
Receive CLR command
Receive reception level of three carriers of FLAGs or communication distance estimated value
ST803
Transmit CL command
Transmit level of three carriers of FLAGs or communication distance estimated value
ST804
Receive MS command
ST805
Transmit ACK command
ST806
End G.hs
ST807
Select PSD based on communication distance estimated value &
Perform xDSL communication
ST808
End communication

Fig.9

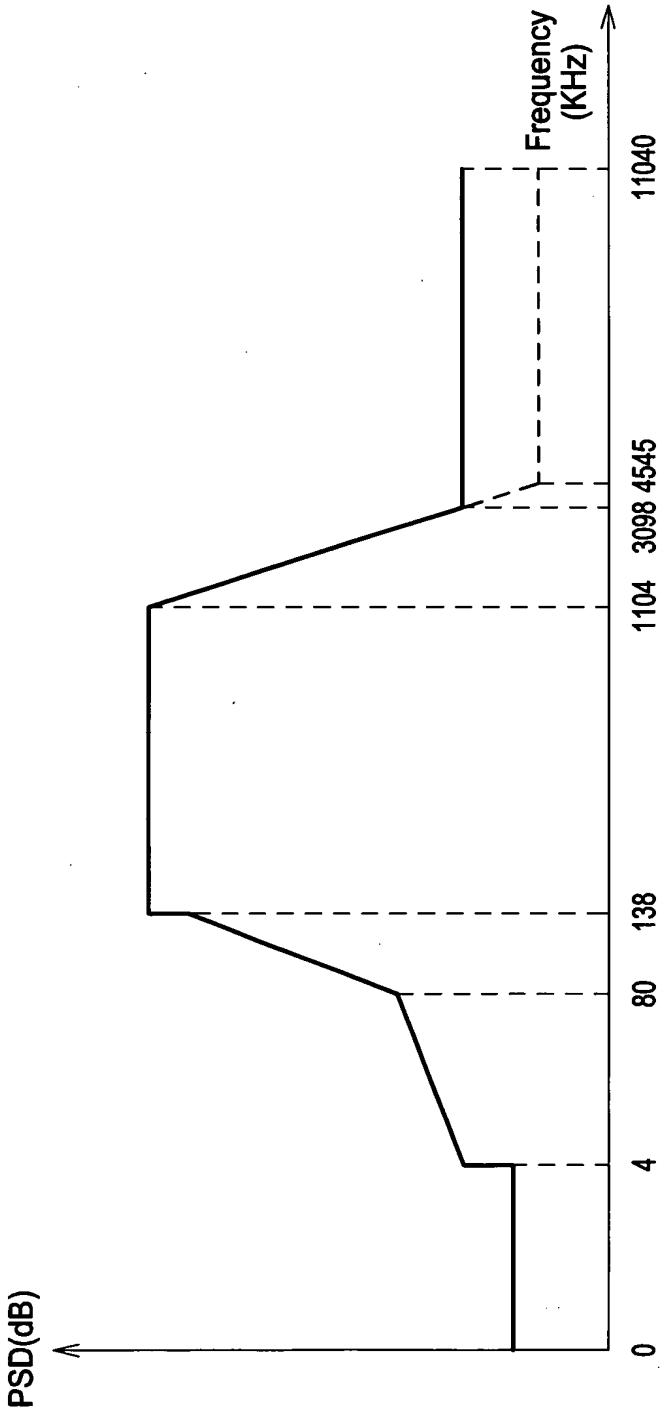


Fig.10

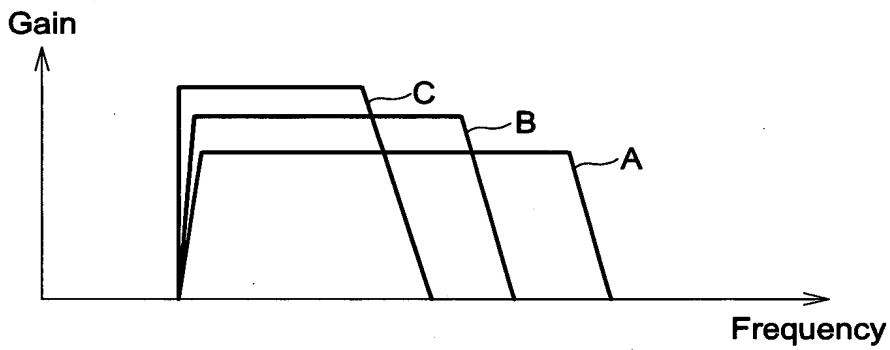


Fig.11

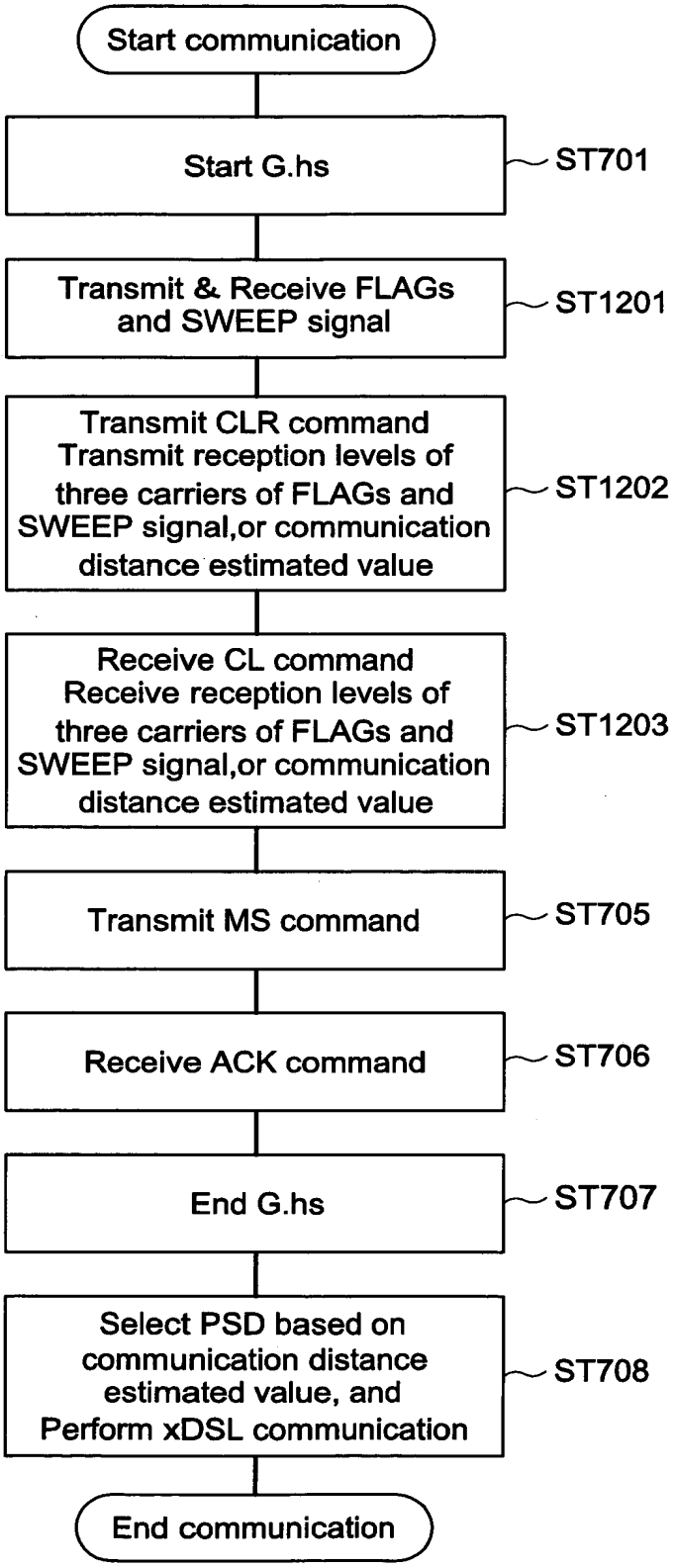
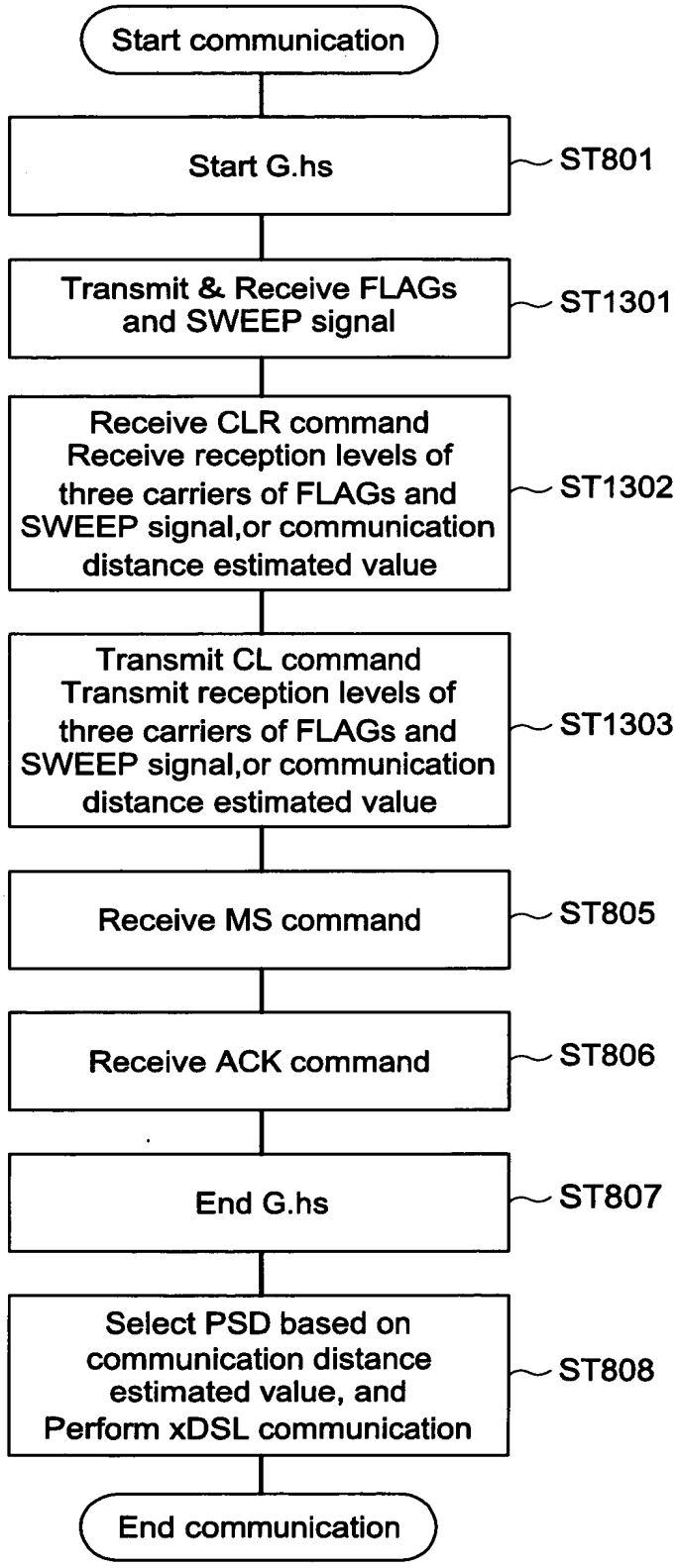

Start communication
Start G.hs
ST701
Transmit & Receive FLAGs and SWEEP signal
ST1201
Transmit CLR command Transmit reception levels of three carriers of FLAGs and SWEEP signal,or communication distance estimated value
ST1202
Receive CL command Receive reception levels of three carriers of FLAGs and SWEEP signal,or communication distance estimated value
ST1203
Transmit MS command
ST705
Receive ACK command
ST706
End G.hs
ST707
Select PSD based on communication distance estimated value, and Perform xDSL communication
ST708
End communication

Fig.12


Start communication
Start G.hs
ST801
Transmit & Receive FLAGs and SWEEP signal
ST1301
Receive CLR command Receive reception levels of three carriers of FLAGs and SWEEP signal,or communication distance estimated value
ST1302
Transmit CL command Transmit reception levels of three carriers of FLAGs and SWEEP signal,or communication distance estimated value
ST1303
Receive MS command
ST805
Receive ACK command
ST806
End G.hs
ST807
Select PSD based on communication distance estimated value, and Perform xDSL communication
ST808
End communication